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Leaders of the future study rights of citizenship

■ The seventeenth annual gathering of 4-H Club members and leaders for National 4-H Club Camp opens June 11 and is in session until June 18. Housed this year in temporarily released government personnel quarters erected during the war on the old Arlington Farms of the U. S. Department of Agriculture, the delegates look across the Potomac River toward the Washington Monument and other landmarks clustering around it. Back of their quarters is famous Arlington House, one-time home of Robert E. Lee. Leaders attending previous 4-H camps remember a number of camp sites, two on the Mall in the shadow of the U. S. Department of Agriculture, one near the Smithsonian Institution, and one at the front of the Washington Monument which was used from 1932 until the opening of war. The 1946 camp, first to be held after VJ-day, was a combination of American University and U. S. Navy facilities.

As an established meeting place for a group of rural young people, the camp is an occasion for exchange of ideas on citizenship and rural leadership. Every effort has been made by Federal and State 4-H leaders to utilize the opportunities the national capital affords for studying the processes of our democratic form of government.

An indication of the importance accorded this study is the emphasis placed on the responsibilities of citizenship. A citizenship ceremony honoring 4-H members reaching voting age developed as a part of the National 4-H Camp tradition. One of the 10 guideposts for building 4-H Club programs, suggested by a special committee of 4-H Club leaders and adopted by leaders and members

at the twenty-fourth National 4-H Club Congress, reads: "Serving as citizens in maintaining world peace."

Rights of citizens of the United States provided through the Bill of Rights and their responsibilities in protecting them is the subject of study for the 1947 camp. Discussion sessions, talks by nationally known speakers, and educational tours are a part of this study. Judiciary and other agencies of the Government in Washington which interpret, protect, or enforce these provisions are being visited. Representatives of these agencies are available for conference with the 4-H groups. Leaders of thought and action in fields affected by the various portions of the Bill of Rights, such as freedom of the press, are contributing their ideas and experiences.

The theme for study in 1946 was

rural citizens' responsibilities and opportunities in the legislative phase of government.

For their study of legislation, the 4-H members at camp were divided into 16 divisions, comparable to 8 committees of the United States Senate and a similar number of the House of Representatives. Members of each division had lunch and dinner sessions together the first 2 days of camp in preparation for their visit to Congress. Each group elected a chairman, discussed the functions of the committee assigned it for study, and framed questions to be asked the committee. On the third day of camp the 16 groups and their leader advisers met with members of the Senate and House committees and their staffs in committee rooms at the Capitol.

Study of the legislative phase of our Government was continued by most of the delegates on their return home. In Delaware, Illinois, Maryland, and several other States, a similar study of the State Legislature was a feature of the recent National 4-H Club Week, March 1 to 9.

In studying the processes of democracy a committee of National 4-H Club campers met with the Agriculture Committee of the House of Representatives.



Dynamic program based on needs

■ Finding the county's needs and interpreting them in terms of a dynamic program has placed home economics program planning in Kansas on a continually broadening plane. Guided by county needs instead of individual interests or the dominance of extension workers, the program comes into being on a solid foundation of facts. Byproducts are straight-thinking, responsible advisory committee members, and an ever-widening influence.

The search for facts and the "county situation" sends the advisory committee member into conference with county health officers and nurses, judges of juvenile delinquency, city librarians, county commissioners, school personnel, agency representatives, and on visits to every home demonstration unit in her township.

Does the county need a well-child clinic, REA, better housing, hot school lunches, more 4-H Clubs, or community recreation? Do the homemakers need demonstrations on making dress forms, tailoring, frozen food cookery, or lessons on utility rooms, family finances, or child development? Each county comes out with its own answers.

Over the years that this procedure has been followed by Kansas home demonstration units, a calendar of work has developed for the advisory committee. It starts in January with a district planning meeting of county advisory chairmen with home demonstration agents and district and State leaders. The district home demonstration agents, Ella M. Meyer, Mrs.

Laura I. Winter, and Margaret Burtis, preside at the meetings in their districts. Plans are started and techniques discussed for program planning.

The over-all objectives of home demonstration work are presented by Georgiana Smurthwaite, State home demonstration leader. The national and State extension set-up is explained . . . "you are one of 28,000 women in Kansas and 4 million women in the Nation working together on this program . . ."

After this brief introduction, the women take over the remainder of an all-day meeting with an exchange of ideas. Sentence summaries entitled "In our county this helped" bring out a multiplicity of answers, all the way from the importance of having at least one "dress-up" tea a year and a thorough understanding of county finances, to the organization of a county cancer clinic or the establishment of a traveling library. They study how many women are taking part in various activities and how the work can be made available to all rural women.

"It is in this discussional period," contributed Miss Burtis, district home demonstration agent in the eastern section of the State, "that the clear thinking and accumulated experience of these rural women come to the forefront. We listen and learn. As many as 350 years of accumulated extension educational work may be represented at a single district planning meeting."

Home demonstration agents have

their inning next, discussing ways of strengthening and balancing the work of the committee and the home agent. Most of the home demonstration agents agree that it is their task to discover and develop leaders, help the committee keep informed on the full scope of the extension program, cultivate a county-wide consciousness among all farm women, and develop an interest in peoples and their problems in other lands.

A questionnaire is distributed to the county chairmen to take home to the local women to assist them in finding their needs. The questionnaire changes every year, and the chairman may add to it if she pleases.

Within a month following the district meeting, say in late January or February, the county advisory committee meets. This is a preparation meeting for county planning. Topics of discussion at this meeting may concern coverage for all women, division of responsibility for gathering county-wide facts, and visits from county officials for discussion of the county situation. Each committee member is assigned a definite responsibility.

About a month later, probably the first of March, the committee members visit their home demonstration groups, report on county-wide findings, and present the questionnaire. Sometimes a certain member is appointed to be on the alert for program needs throughout the year and turn over this information to the committee member when she comes.

Now comes the county program planning and project determination meeting, usually held in April and May. Questionnaires and county-wide facts are studied and the most urgent and important indicated. The district home demonstration agent meets with the committee at this time and takes back to the State office the requests for specialists' help.

From this point on, the county home demonstration agent and the district agent adjust the specialists' schedules as closely as possible to county requests. In the late fall an officers' training school is held, at which time the presidents of the units make their final listing of monthly topics and plan their participation in special-interest activities and county-wide events.

The Atchison County, Kans., home economics advisory committee holds its county planning meeting. Isabel Fell, home demonstration agent, is second from the left and Margaret Burtis, district home demonstration agent, is seventh from the left.



Auction for European relief

■ Sixty tons of cereals for Central Europe were purchased to be sent to needy families overseas as a result of one of the most successful county-wide cooperative events in the history of Hardin County, Iowa. The project was started by the executive secretary of the Hardin County Inter-Church Council. However, the Hardin County extension personnel and many other organizations and agencies helped to put this event across.

The auction sale netted a grand total of \$7,594.10.

Letters were sent out to every

farmer in the county soliciting articles or services of salable value. Everything from beds to kerosene ranges to bales of hay, and checks for as high as \$50 were received in response to the plea. Several farmers donated trucking services. One farmer donated a bushel of the new Clinton oats.

The three auctioneers who cried the sale donated their services which lasted all day because of the large number of articles donated.

Four nearby 4-H Clubs served the crowd lunches of cheese and hot-dog

sandwiches, coffee, and doughnuts. Their services netted the sum of \$75.

A 6-months-old nanny goat sold 62 times for a total of \$445. The number of sales at the auctions was 1,153. Attendance was estimated at 2,000.

The newspapers, radio, and announcements of the auction at meetings plus the administrative expenses were all donated.

Boy Scouts sold popcorn among the crowd and donated the amount received. The city clerk of Eldora allowed the sellers to use trucks belonging to the city to haul all sorts of articles needed at the sale. Churches and the American Legion donated articles to be used at the sale.

Colorado homemakers meet

Trains, planes, chartered busses, and private cars brought more than 1,400 home demonstration club members from 43 counties to participate in the sixteenth annual meeting of the Colorado Home Demonstration Council at the Shirley-Savoy Hotel, Denver, February 12.

Fifty of Colorado's 478 home demonstration clubs were honored as master home demonstration clubs and 49 clubs as associate master home demonstration clubs. J. E. Morrison, assistant director, Colorado Agricultural and Mechanical College Extension Service, awarded the certificates.

The membership committee of the Colorado Home Demonstration Council, headed by Mrs. Robert Halston, Montezuma County, urged a goal of 500 home demonstration clubs with a membership of 12,000 for 1947. Present membership is 9,974.

Good work for 4-H

Two Indiana counties, Daviess and Tippecanoe, are receiving special honors at the June "4-H Round-up" for their remarkable record during the past year. These counties have enrolled more than 30 percent of the potential number of 10- to 20-year-old youths in their county and have more than 60 percent of their number in standard clubs. For this achievement they receive the gold awards presented by Prairie Farmer-WLS in cooperation with the Indiana Extension Service.

Silver awards go to four counties—Cass, Clinton, Jay, and White; and bronze awards to 18 counties.

■ MRS. MYRTIE SANDERS SIBLEY, Spalding County, Ga., home demonstration agent for nearly 30 years, retired from active service as of January 1, 1947.

Mrs. Sibley is a Georgia product, born in Madison County of pioneer Revolutionary ancestry, her forebears having been among the very early settlers receiving grants of land in this section. She was reared in the home of one of these early pioneers at Danielsville, Ga.

She was educated in the Danielsville school and at Georgia State College for Women (then G. N. I. C.) at Milledgeville, Ga. Her education in technical fields of agriculture and home economics was received at the University of Georgia. Preceding her work in Extension Service she taught in the Georgia school system.

Her appointment as home demonstration agent in Spalding County dates from September 1, 1917, and extends continuously in one county to date of retirement. Her continuous service in a single county is surpassed by only one other record in Georgia, Pierce County, with Mrs. Annie Wiley as agent.

Mrs. Sibley has always been a progressive leader and has been a pioneer in developing many phases of the county agriculture and home demonstration program, such as carlot poultry sales, establishing a woman's curb market, organizing home demonstration clubs and a county council of rural women, holding annual camps for both girls and women, establishing clubhouses in rural communities, locating prospective home

demonstration agents, and promoting education for rural youth. Two of her club girls were awarded gift scholarships to the university, through the College of Agriculture department of home economics because of their outstanding record, being among the first scholarships awarded to club girls at the University of Georgia.

A great asset as an educational leader is her never-failing sense of good humor and ready wit which early earned for her the title of "Aunt Het," a characterization from Robert Quillen's philosophical and witty sayings under the comic pictorial guise of "Aunt Het." This name has clung to her as an expression of the affection in which she has been universally held by extension personnel, both men and women.

Mrs. Sibley is a charter member of the extension fraternity, Epsilon Sigma Phi, and is a member of the Georgia Home Economics Association. She has served as president of the Georgia Home Demonstration Association. In 1946 she was presented by the latter with a Citation of Award for Distinguished Service in the Field of Home Demonstration Work.

She also received a citation from the American Red Cross for services as county chairman of the Griffin Chapter, a position held continuously since 1919.

Mrs. Sibley was presented a silver pitcher bearing the inscription, "Spalding County Home Demonstration Clubs, 1917-46," and a pair of engraved silver candle holders at a tea given in her honor.

They have what it takes

Program clicks when all groups in the community work together for conservation

■ Agricultural agencies, businessmen civic organizations, and others have often decided what was wrong with farming and made constructive suggestions. The catch in this is that the farmers also know—often sooner and more thoroughly than their neighbors in the towns and cities—what is wrong with their soil and their farm operations but frequently the solution involves problems that they are not able to do much about.

District Agent K. J. Edwards of northeast Texas conceived the idea that businessmen, representatives of governmental agencies working with agriculture, and farmers and ranchmen might organize informal councils to work on such problems from all angles. He thought the governmental technicians might chart the problems and the remedies, the farmers and ranchmen supply the know-how and details of practical application, and that the businessmen could step in and help when things got to the point where all agreed that some program was needed but where, for one reason or another, it could not be carried out.

Census Shows Decrease in Farms

The East Texas Chamber of Commerce was interested, for the census figures showed an alarming decrease in the number of east Texas farms. A committee, the Northeast Texas Soil Improvement Advisory Council, was formed. It decided to concentrate on the 19 counties in Mr. Edwards' district: Bowie, Camp, Cass, Delta, Franklin, Gregg, Harrison, Henderson, Hopkins, Lamar, Marion, Morris, Rains, Red River, Smith, Titus, Upshur, Van Zandt, and Wood.

This council found that population had decreased in all of the counties except Bowie, where a shell-loading plant was located; and Delta, which showed no change. Decreases in population for the past 10 years ranged all the way from 1.8 percent for Morris County to 35.6 percent for Henderson. Franklin, Rains, and Van Zandt had lost more than 30 percent; Hopkins, Red River, and Upshur more than 20 percent; Camp, Cass, Gregg,

Harrison, Marion, Smith, Titus, and Wood between 10 and 20 percent.

No small part of this decrease in population was due to abandoned farms and low farm income. In 1944, a good year for farmers, only Delta (\$30.48) and Lamar County (\$19.81) had estimated average incomes of more than \$7.67 per acre. That was the figure for Hopkins County, the next highest. Henderson County's estimated income per acre was \$4.90.

Again, only Delta (\$2,652 per farm) and Lamar County (\$2,199) had estimated farm incomes over \$1,000. Hopkins County was again in third place, with \$805 per farm family.

It seemed significant to the council that the county with the lowest income per farm acre, Henderson, had also suffered the greatest percentage loss of population, 35.6; and that Delta and Lamar, the two high counties in both acre and farm income, had lost no population in the case of Delta and the relatively low figure of 8.4 percent in Lamar County.

The council asked Ralph Griffin of the USDA Production and Marketing Administration, (AAA); C. B. Spencer, agricultural director of the Texas Cottonseed Crushers Association; and Mr. Edwards to serve as an action committee to make recommendations.

The committee came up with (1) a definite soil-building program, with specific recommendations for 3- and 4-year crop rotations, legumes by varieties and seeding rates, fertilizers by types and rates of applications, and upland, bottom land, and temporary pastures; and (2) a recommendation that the program be carried to the counties, with help to be tendered in the organization of councils on the county level. It was further recommended that the TVA farm unit demonstration program be offered to 12 additional counties in the district.

Teams were appointed by the council and a schedule set up to carry the plan to the 19 counties in the northeast Texas area. Here is the way the program worked out in Harrison County, chosen as a typical example:

At the first meeting, with some 80

farmers, businessmen, and agency representatives present, the plan was discussed and found good. The Harrison County Soil Improvement Advisory Council was organized. Officers elected were O. H. Clark, banker, chairman; T. P. Smith, Jr., farmer, vice chairman; and Vivian Hackney, banker, secretary.

Committees were appointed: Technical, with E. D. Bolton, USDA Soil Conservation Service, chairman; education, B. M. Browning, county agricultural agent, chairman; and steering, with Mr. Clark, the council chairman, as the head.

The Harrison County group adopted the regional recommendations as written but recommended that sweetpotatoes replace cotton in part as a cash crop; then goals were set up for the various practices. Several soil improvement and pasture contests were announced. The local newspaper publisher, Milliard Cope, wrote up the recommendations and goals; and 8,000 copies of a colored leaflet were printed and distributed by local seed dealers.

The Materials Were Missing

It was when the educational committee took the recommendations of the technical committee to the farms of Harrison County that the old trouble showed up. The farmers said certainly, they knew they should plant legumes, and they knew they should fertilize with superphosphate; they were willing and eager to do that, but little legume seed or superphosphate was on sale in local seed stores. After a man made several trips to town and came home with his pick-up empty, he let it go and went back to corn and cotton.

It was then that the steering committee went into action. On January 18, 1946, Chairman Clark called a meeting of all local seed and feed dealers. He put the problem up to them: The council had made a survey; Harrison County farmers would plant so much kobe lespedeza, so much hairy vetch, and they would apply so much superphosphate. With this known market assured, would the seed dealers supply the needed legume seed and fertilizer?

A seed dealer spoke up: The Government had set \$24.50 per ton as a fair price for superphosphate; the

AAA would take care of it to the extent of \$21.80 per ton under the materials conservation program. He said the margin of \$2.70 per ton did not justify his handling the fertilizer. This opinion was shared by the other seed dealers.

Mr. Clark said that might be so, if a dealer had no way of knowing that he could move the fertilizer. He quoted reports from Mr. Fleming of the AAA and Mr. Browning, the county agricultural agent: Harrison County farmers would buy 25 carloads of superphosphate in 1946; they would buy 6 carloads within the next week if it were available. This, he pointed out, was insurance to the seed dealer against overstocking; if there was a quick and sure market, with most of the fertilizer being moved directly from the railroad cars to farmers' trucks, \$2.70 per ton was not a bad profit.

He brought up another point: Seed dealers depended on local farmers for their living. Harrison County's income per acre for 1944 had been \$6.55; farm family income averaged \$478; population had decreased 11.1 percent in the past 10 years. He thought the soil improvement program would raise farm income, hold farm families on the land; but if the businessmen were not willing to help the farmers, they could look forward only to smaller and smaller volume of sales in the future as more and more farmers became discouraged and moved away.

When he was through, the representative of a seed company spoke up and said his firm would handle 25 carloads of phosphate on the Government basis. The company had also agreed to make 600 sacks of kobe lespeze seed available immediately.

That was the kind of cooperation Harrison County farmers had been wanting and the kind of action they had been looking for. And they did their part by planting the seed and applying the fertilizer.

This is only one example of the results obtained by the Harrison County Soil Improvement Advisory Council during 1946. There are 18 other county councils in the northeast corner of Texas. Some have done more and some less than the Harrison County group, but by and large the movement shows considerable promise.

Alabama 4-H boys learn tractor care and maintenance

■ 4-H boys are spearheading the attack on tractor care and maintenance problems in Alabama through county-wide clubs that are being organized in every county of the State.

Average membership in each county club runs around 20 4-H Club boys 14 years old or older. Most members live on farms on which tractors are now being used or will be used as soon as they are available.

also went out and serviced 52 other tractors in the county. Besides doing this, he assisted 75 farmers with all kinds of farm equipment problems.

So promising were the results from the 1945 clinic that at least one 4-H boy and the assistant county agent from each county in the State were given the same kind of training at four district clinics in 1946. This is the basis on which the county-wide



A demonstration team at one of the clinics is showing how fuel can be saved by proper carburetor adjustment.

Interest among 4-H members in properly caring for tractors has grown steadily since a State tractor clinic was held in 1945 by the agricultural engineering department of the Alabama Polytechnic Institute. At this clinic, 20 4-H leaders from selected counties were trained in best methods of servicing tractors. Each leader who received this training assisted county extension agents in conducting demonstrations among farmers owning tractors.

An outstanding example of the effectiveness of this program was Leonard Traywick, Chilton County 4-H leader. Leonard not only did a good job of servicing his own tractor; he

tractor maintenance clubs are being organized.

Activities of these clubs will include community demonstrations through which farmers who have tractors will be assisted with maintenance problems. Local implement dealers are cooperating with the 4-H leaders by providing assistance at the demonstrations. Thus each farmer will get information about his particular tractor that will help him get the maximum working life from it.

■ In a harvest of evergreens from the 4-H forest in Barry County, Mich., about 1,000 trees were cut and sold at 85 cents apiece. The harvest was a thinning operation.

To know what you are doing

LAUREL K. SABROSKY, Extension Analyst, Division of Field Studies and Training

SAMPLING—An old principle in research—a new angle which lessens the load of the extension agent. Mrs. Sabrosky is not broadcasting a new-fangled idea; she's explaining a practical method to streamline extension work.

■ How long can an extension agent teach when he does not know whether he is getting any results? How satisfied can he be with his planning when he does not know what his people are like—what they want—what they need?

There are two ways to get this information: First, you can go out and talk to every person in your county and get this information. No one has time to do this. The second way is to talk to a part of the people—a *sample* of the people—and get the information from them.

This second method—called *sampling*—has three steps: (1) Defining the population, (2) selecting the sample, and (3) drawing conclusions about the population. It is a circular process: In other words, (1) Decide who the people (the population) are the agent wants to get information from or about; (2) select a *sample* of the people from this entire group; and (3) apply the information obtained from the sample to the whole group.

BUT, it will not work unless the following two processes are carried out carefully and exactly.

Describing the Population

The first of these is the *description of the population*. If you do not know who the people are that you desire to sample, you cannot apply modern principles of sampling. This process is of vital importance to extension workers in all phases of their work. Know in whom you are interested. If you are teaching a dairy practice, which farmers are you trying to work with? If you are teaching care of furniture, which homemakers are you trying to work with? All the farmers or homemakers in the county; the commercial farmers only; all rural homemakers, regardless of farm or nonfarm; only the American-born people? Even when you are holding a meeting, you need to decide whom you want to have to come to that

meeting and publicize it accordingly. So it is when you wish to get information from a group, you have to decide exactly what group you want information from. If you have a mailing list in your office, does this suffice to include the "whole group"—the entire "population of interest?"

If you get your information from a sample of an incomplete or incorrect population, it may be as far off from the truth as though you took the sample incorrectly.

This describing of the "population" is in itself an educational process for anyone with as wide and as heterogeneous a clientele as a county agent has. There have been cases where agents have felt that a mailing list included every farmer interested in a certain commodity, and it was found that it was incomplete—or when an agent was quite sure that every farmer in his county had an opportunity to receive certain information and, therefore, would be included in a "population" of farmers receiving that information—only to find that a limited number had been so reached and that the method of information dissemination could not possibly reach the others.

The second step or process which must be carried out very carefully is the *selection of the sample*. If these two steps, description of the population and selection of the sample are carried out carefully, then the application of the information you get to the whole group or population can be carried out.

There is one fundamental objective in selecting a sample. That is to give every person included in the whole group or "population" an equal chance of being selected. The differences between individuals tend to cancel or balance out so that accurate averages are obtained if a carefully planned method of random sampling is carried out; when the sampling method used does not give every one an equal chance of being selected, the

results will more likely than not be distorted. For example, if you select your sample by taking only those farmers who call at your office, the information from them will be typical of that received from farmers who put forth effort to get help from the county agent (a definite type of personality), and not typical of all farmers in the county, many of whom never come to the agent's office. Information received only from farmers who live on paved roads would be different from that received from farmers living back on the dirt roads and, therefore, would be distorted in favor of farmers living on paved roads. Information received from women who attend home demonstration club meetings would be biased by the attitudes and knowledge of club women and would not be typical of the attitudes and knowledge of all women.

Although the common definition of the word "random" implies a haphazard procedure, without aim or direction, the word "random" used in connection with sampling implies a careful plan—a plan which insures that no factor enter into the selection of the sample which would cause sample averages to be too high or too low.

What Size Sample?

There is no one size of sample which will apply to all sampling procedures. The number of people you decide to include in your sample will depend on three factors, none of which can be considered alone.

These factors are: (1) The breakdown of the data. This means that you may want to separate the information or data you collect into different groups according to the characteristics of the people giving the answers. For example, if in getting dairy information, you might want to compare the answers given by farmers with 50 or more cows with those having less than 50 cows; or to compare the answers of farmers 35 years of age and younger with the answers from those over 35 years of age. In other words, we have broken down the data into classes or groups to get more specific information. The more of such classes you plan to compare, the larger your sample must be, as there must be enough records for

each class to make it possible to study the data from it. If you think that there are no more than one-tenth of your farmers who have 50 or more cows, but you want to study them as a class, you will need a sample large enough to include, say, 50 such farmers, thus making your total sample 500; whereas, if you did not plan to study this particular class, 100 to 200 records might be enough.

(2) The second factor to be considered in sample size is the accuracy you wish to get. If the sample is carefully selected to insure random selection from the whole group, then the larger the sample is, the more accurate the results will be that you get from it. If the sample is carefully selected by certain ways at random, then by statistical analysis it can be determined just how large the sample must be to make it of a specified accuracy. The results from the sample always vary from the true results from the whole group by a margin.

Let us take an example. In a study for which 500 records were chosen by a random sampling method, an average of 35 was obtained for one item. For this study, the actual, true average for the whole group, found by statistical analysis, would be roughly somewhere between 30 and 40. How narrow that margin needs to be depends to a great extent on the use to be made of the data. If finding out that approximately one-third of the families have certain equipment is sufficiently accurate information, the range as indicated above is narrower than it need be, and the sample could be smaller. On the other hand, in reporting crop yields and other more exact data-collecting, we would want to narrow the margin materially.

(3) The third factor in determining size of sample is the cost. This is a practical consideration. Cost, in terms of time, travel, equipment, and facilities, must be taken into consideration.

I will mention here briefly three of the more common methods of sampling.

Random Sampling of Individuals

If you have a list of every person included in the whole group or "population," you can number them, and in one of two different ways, select those who will comprise the sample. One way, after deciding what per-

centage of the total list you need, is to pick out of the list every so many names—if you want 10 percent of the list, select every tenth name. The other method is more likely to insure a random sample, and that is to choose the names from the numbered list by a list of random numbers such as Tippett has made up. ("Facts for Computers," XV, "Random Sampling Numbers," by L. H. C. Tippett, Cambridge University Press, 1927.) These numbers are listed in random order in his book; if the names are chosen in the order that the numbers fall on any one page of his book they will definitely be chosen at random and should be representative of the whole list.

Area Sampling

This method actually means a random selection of geographical areas in which people live instead of a random selection of the individuals themselves. It is the only practical method in absence of a list of all names. An area—a township, county, State, or the country—is divided off into small segments which should be, for practical purposes, bounded by distinguishable boundary lines such as roads, streams, or railroad tracks. Each of these segments is marked off to include, on the average, the same number of homes, farms, or residences. If the average number is five, then each area should contain from three to seven units. After the segments are all defined, the required number of segments are selected by random method, using one of the methods described in reference to random sampling of individuals.

In general, the fewer the units within a segment (and therefore the greater number of segments included in the survey), the more accurate should be the results of the survey. In using this method in a survey, every unit within every selected segment must be covered for getting information. It is a valuable method to use as it saves time and travel and reflects variations in number of farms or residences in areas from time to time. Essential to this method of sampling is a map which includes residences as well as roads, streams, and other characteristics of the area. Photographic maps are sometimes necessary when areas are so thickly settled that boundaries of fields, yards, and so forth, which are

not shown on ordinary maps, are used as boundaries of sampling areas.

This method, which would be combined with one of the other methods mentioned above, insures better coverage of the population, but presupposes certain knowledge of the population. When you know that the population is divided into groups comprised of individuals alike in certain characteristics, and you know to what proportion these groups are represented in the whole group or population, you can sample each of these groups separately. The sample taken from each group should represent in numbers the same proportion to the total sample as the group does to the whole population. For example, if you know that one-third, or 1,000, of your farmers are wheat farmers, and two thirds, or 2,000, are dairy farmers, one-third, or 75 for example, of your sample should be wheat farmers, and two-thirds, or 150, dairy farmers. Stratified sampling may be used to make some complicated problems in sampling more manageable, but, basically, the above principle must apply.

Elaine Massey

Mississippi was recently honored by the State Home Demonstration Agents Association at their annual meeting. The recognition was given for Elaine Massey's contribution to the Extension Service during the past 23 years, especially for her leadership of girls 4-H Club work in the State. Under her direction, Mississippi increased the annual enrollment of 4-H Club girls from 9,300 to 23,000. The girls brought home many national awards.

Miss Massey has taken part in such forward-looking activities as the development of the 10 guideposts to a national 4-H postwar program. She is now district home demonstration agent. Many honors have come to her: In 1940, former 4-H Club girls and home demonstration agents, recognizing her service to rural youth of the State, presented her with a silver tray. In 1945, she was chosen "Woman of the Year" by the Progressive Farmer; and in 1931 she was awarded the Sarah Bradley Tyson Memorial Scholarship, offered by the Women's National Farm Garden Association.

Conference for older youth

E. W. AITON, Field Agent, Eastern States, Division of Field Coordination

■ The average extension worker looks upon a conference as a means to an end rather than an end in itself. Not so in Colorado, Connecticut, Illinois, Iowa, Maryland, Massachusetts, Minnesota, New Hampshire, New York, Pennsylvania, West Virginia, and several other States. Insofar as the older rural youth program is concerned, these States recognize squarely that a conference experience can be an important aid in the leadership and individual development of young people. Besides, it helps build programs.

During the past year, many State Extension Services have provided conferences, camps, or training meetings for older youth. For example, on March 18, at Bainbridge, N. Y. 35 older youth delegates from surrounding counties held an all-day training session with the extension workers, but they "ran the show" themselves. On the next day, at Watkins Glen, N. Y., a similar group of 28 from that district went through the same performance. Primary emphasis on the formal part of the program at each event was placed on program planning, organization problems, and recreation aids.

The learn-by-doing method was employed at the New York conference, with District Older Youth Agents

Robert Marsh, John Strausbaugh, and Lacey Woodward putting on actual demonstrations for the delegates. Arthur Bratton, who has recently been added to the Empire State Extension Service as older youth specialist in agricultural economics, led discussions on proposed case study work with older rural young people. Mrs. M. K. Wellman, who is a specialist in economics of the household, gave the delegates training in group discussion leading.

Besides the information that training conferences provide for older youth, there are several other equally important byproducts. John Lennox, assistant State 4-H Club leader in charge of the older youth program in New York, points out that young people basically need opportunities to meet large numbers of other young people of their own age. In their desire for social acceptability they also need a chance to develop and discuss projects and programs that will be important to persons of their own age. They are too old for young adolescent groups and should not be forced into the mold or pattern of adult organizations before they are ready for them. The New York program recognizes also that a great deal can be done for older rural youth without any formal organization. They are

now working on service letters, personal visits, and other teaching devices, as well as meetings.

Minnesota held a conference of about 200 delegates from county older youth groups on January 2, 3, and 4, at University Farm, St. Paul. The program featured tours to points of educational interest in the Twin Cities, reports from county delegates, organization and business meeting, and talks and discussions on topics of current importance. Paul J. Moore, assistant State 4-H Club leader, and Kathleen Flom, State rural youth agent, directed the preparation and plans for the meeting.

Connecticut, Maryland, and New Hampshire held summer conferences and older youth institutes on State agricultural college campuses at Storrs, Conn.; Durham, N. H.; and College Park, Md., in August. Maryland also held a State-wide hotel-type conference of senior 4-H Council delegates at Baltimore in January. More than 100 rural young people were in attendance at each of these four State-wide conferences.

The Iowa Rural Young People's Assembly has become a traditionally important State-wide conference of older youth over a period of nearly a decade. Illinois, Minnesota, and West Virginia annually hold rural youth camps each spring. Pennsylvania, each winter, conducts a series of training conferences for older youth group officers at several places throughout the State.

Working together in Wisconsin

■ We spend considerable time in discussing and planning for more extensive contacts in extension. We are all aroused about the need for quality. We feel that our work must include the consumer.

Our "Good Egg Days" are designed to do that job in Wisconsin. They are arranged through the cooperation of our county extension staff, association of commerce, food dealers, merchants, public service company, egg and poultry dealers, feed men, hatcherymen, schools, women's clubs, service clubs, press and radio, and poultry improvement association.

The afternoon show consists of a movie, a discussion of egg quality, and

a cooking school. The public utility installs a stove and water heater. A turkey grower furnished a turkey that was halved, roasted, and given as one door prize. The demonstration was given by the home agent and the demonstrators for the utility company.

In the evening we had a movie, egg quality discussion, demonstration on preparing poultry for the table, carving, machine-picking poultry, speed picking, and a chicken-picking contest. Contestants in one case were the mayors of the Twin Cities where the meeting was held. Variations were made from this such as city slickers versus farmers, men versus women, FFA chapters, and others of interest.

The evening show was closed with entertainment, such as a barber shop quartet, old fiddlers, ventriloquists, skating, and others.

An egg show was a part of each day's program. As many as 180 plates of eggs were displayed. Two eggs were broken for the judging to show interior quality.

Attendance? The maximum number for the afternoon and evening was 2,250.

These days glamorize the poultry industry, give extension contacts it has not had before, inform the producer and consumer, and interest local civic interests in the kind of job we are trying to do.—*J. B. Hayes, professor of poultry husbandry, University of Wisconsin.*

Where to take the picture

Second in a series of practical photographic tips, by George W. Ackerman, chief photographer, Extension Service, U. S. D. A.

■ Where to take the pictures is one of the first things to decide. Background so often either makes or breaks a picture. Perhaps you have decided to take a picture of Mr. Jones' new chicken house made according to plans you obtained from the poultry specialist. Walk around the house and see from which side it looks best. Perhaps you can replace the old tumble-down house in the background by a rolling sweep of field and forest from the other side. By moving a little to the right or left you can hide an unsightly object in the background behind the house itself.

Take your time and select the best possible place. An attractive background will often sell your picture whereas an unattractive background will get your picture turned down by an editor even when the subject matter is right.

For outdoor pictures, I look for trees and shrubbery if this is an appropriate background for the picture. It

must be appropriate, for the background should help to tell the story. The labor-saving buck rake tells a better story pictured in the field at work than if taken in front of a beautiful shade tree. A correct table setting tells a better story on a dining room table than on an office table. The appropriate background contributes to an understanding of the picture.

A few suitable properties will help still further and are practically always available. When taking a sewing picture, I insist on a pair of scissors, needles and thread, thimble, and a tape measure being in plain view.

In selecting background, get some contrast. For example, a 4-H boy holding his White Leghorn against a white shirt does not do justice to a fine bird. You get the same result with a Rhode Island Red against a red barn or khaki shirt. Such things can usually be easily remedied if some thought is given to the background.

An attractive vista of hill and meadow adds beauty to this picture—a 4-H Club member and his grandfather making a victory garden.



A cabbage and a basket of vegetables help to tell this story.



50,000 Pictures

During the past 29 years, Mr. Ackerman has visited every State, traveling the side roads and the back roads in county agents' cars, always looking for pictures to show the results of extension work. He has more than 50,000 pictures to his credit. You have seen many of them through the years in farm papers, garden supplements, magazines, and text books, and on bulletin covers.

One of the first things the agent says to the photographer as they get under way is, "I want you to see some pictures I took last week," or "Why wouldn't the editor take this picture?"

The picture-taking problems of the agents often seemed to take the same pattern. The same difficulties arose again and again. Just a few simple suggestions greatly improved the run-of-the-mill extension pictures. With the idea of helping the many extension friends with whom he has discussed pictures, he prepared for the Review this series of tips, dedicated to the agents who have worked with him in finding good pictures.

Blind 4-H boys raise chickens

OWEN S. TRASK, Extension Poultry Specialist, Connecticut Agricultural Extension Service

■ Ten boys at the Connecticut School for the Blind are fast becoming accomplished poultrymen.

These boys, who are from 12 to 19 years old, are caring for 250 laying hens. Their flocks provide eggs for the 40 children at the school, and the extras are sold to families living in the neighborhood.

This club work was started last September when Frank Johns, superintendent of the school, asked Mrs. Elizabeth Farnham, associate club agent in Hartford County, and me to come and help the boys get started.

I visited the school and suggested ways to get five pens ready for new pullets. Then the boys went to work. They cleaned the pens, repaired equipment, built feed hoppers, and put down fresh litter. Mr. Johns and Anthony Rozek, the handicraft teacher at the school, were their

guides. When the job was done, the chickens were bought.

There was a little difficulty at first when the birds suffered from disease. Many of them didn't lay many eggs, and several died. However, by February they began to pick up, and at the end of the month more than 50 percent were laying.

The boys paired off—two boys working together to care for about 50 birds. One boy who is able to see a little is the "eyes" for the team. Each morning they feed and water the birds before classes begin. During recess and again at noon they pick up the eggs. Then, after classes are over, they feed scratch and check their birds for the night. They use automatic lights in the evening and in the morning to help increase egg production.

Every Tuesday night is club meet-

ing night. With their club leader, James Harrington, Jr., a teacher at the school, the boys talk over their work and ways to improve it.

They are enthusiastic about their poultry work. They watch their flocks carefully. When a bird stops laying it is taken out of the flock—or "culled" in the poultryman's language that the boys are learning.

One day the poultry specialist from the University scored the pens to see how the recommended poultry practices were carried out. He found that the boys scored very high on the list.

This is the fourteenth year that a 4-H poultry project has been carried on at the school. Originally, both boys and girls took part, but during recent years the boys have been in charge.

The project is sponsored by the Hartford Lions Club which lent the boys the money to start their work. When school closes in June, the birds that are left will be sold, the loan repaid, and the profits divided.

Electric improvement club

■ Rural electrification was the chief interest of an Alaskan 4-H Club of 11 members who called themselves the Electric Improvement Club. Under the direction of their leaders, Mr. and Mrs. W. C. Mau, they learned simple facts of electricity and how to make ordinary repairs in electrical equipment. Each member studied thoroughly one job to do around home, making improvements that would save time and energy.

The club became interested in home and school lighting and checked light in various situations with a light meter. Perhaps the most significant was the problem of checking the lighting in the Palmer School. School patrons and officials recognized that the lighting was inadequate and planned to make some improvements in lighting and painting during the summer. The first check was made before any work was done. A day was chosen for the test which resembled the cloudy days of winter when artificial light would be needed. This reading revealed that the light ranged from 5 to 8½ foot-candles, with 1 foot candle in the hall. The average

was about 7 foot-candles. No room had more than 8½ foot-candles, which is considered inadequate for most tasks.

During the summer the walls which had been finished in a natural oak stain were painted a beige. Readings were again taken. This time the light varied from 10 to 25 foot-candles in the classrooms, 6 in the dining room, and 2 in the halls. For ordinary study, about 20 foot-candles of light is considered sufficient. However, in some of the classrooms the 4-H members found there was still inadequate light for good study.

The local school board was much interested in this study and gave full cooperation. The president of the board accompanied the group on one of the readings.

Weed control in Northeast

Weed control in the Northeast will be on a firmer and more cooperative foundation in the future as a result of a meeting at Cornell University, Ithaca, N. Y., in late February.

More than 80 scientists from the agricultural experiment stations and

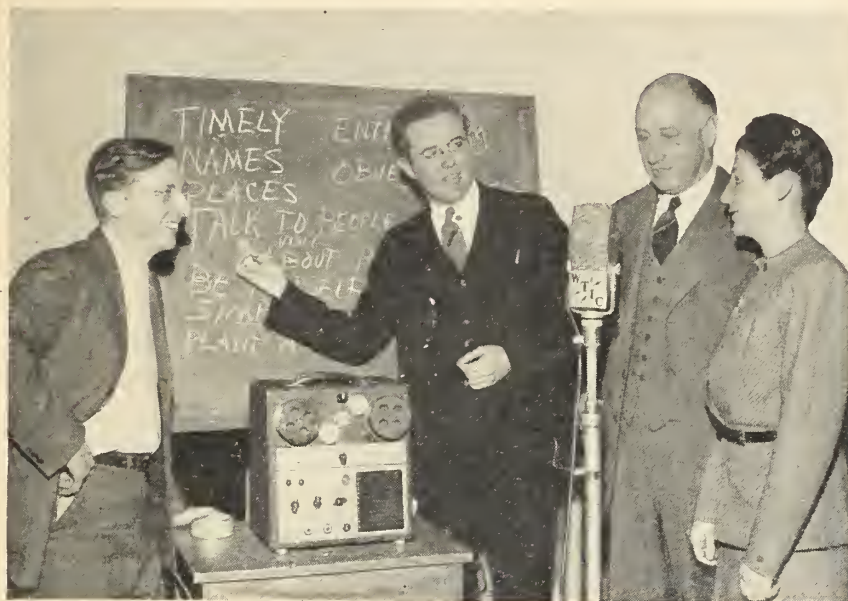
men from industry and health departments, all interested in weed control, came from a dozen States to plan the fight against weeds in vegetable gardens, pastures, turf, fruit crops, ornamental plantings, and field crops.

Out of it came a new organization known as the Northeastern Weed Control Conference. It is similar to such groups in the Midwest and West, but includes more crops because of the variety grown in the Northeast.

■ A conference of 125 boys and girls from senior 4-H Clubs of 6 southern California counties was held at Camp Seeley in the San Bernardino Mountains, March 15 and 16, 1947. Delegates were registered from San Bernardino, Orange, Riverside, San Diego, Imperial, and Los Angeles counties. Development of county-wide senior club programs was the primary purpose of the conference.

■ The annual conference of New Mexico Extension Service workers, held January 6, 7, 8, and 9, had as its theme, Training for the Job and Doing the Job. Emphasis was placed on the need for adjustment to changing agricultural conditions in the Nation and in the world.

More Than 60 radio schools held



■ Joe Tonkin (center), Federal extension radio specialist, with Frank Atwood (left), farm program director of Station WTIC, Hartford, Conn., Raymond P. Atherton, county agent for Litchfield County, Conn., and Irma Winkleblack, Connecticut assistant State 4-H Club agent at the Connecticut Radio School which was arranged by Extension Editor Harold Baldwin, in cooperation with WTIC at Hartford, February 7. Twenty exten-

sion workers took part. Including schools conducted by Ken Gapen in the Western States before his appointment as chief of the Radio Service, more than 60 such schools have been held throughout the country in the past 2 years, with approximately 1,200 extension workers as students. Ken estimates that half of the extension officers in the country are using radio in one form or another, and the trend is still on the increase.

Radio observes county agent anniversary

■ Early days of extension work were revived again in New Jersey as several radio stations recently presented special programs honoring the thirty-fifth anniversary of the appointment of the State's first county agent.

Phil Alampi, farm program director of Station WJZ, New York, featured talks and interviews by four Extension Service staff members on his 5:45 to 6 a. m. Farm News program. Director M. L. Wilson and Henry W. Gilbertson, also with the Federal Extension Service, were heard in brief talks.

Mr. Gilbertson was the first county agent in New Jersey, appointed in Sussex County on March 16, 1912. Representing the New Jersey staff were Arthur J. Farley, extension fruit specialist, who has been with the New Jersey College of Agriculture for 38 years, and Sam Reck, extension editor. Phil, who is a graduate of Rutgers University, presented a complete transcription of the anniversary part of his March 17 program to the Extension Service as a souvenir of the occasion.

Tom Paige, director of WNBC's

"Modern Farmer" (6 to 7 a. m. e. s. t.), saluted the New Jersey Extension Service Saturday, March 15. He featured a 5-minute talk by Mr. Gilbertson and interviews with John Raab, the present Sussex County agent, as well as with George W. Van Horn, for many years a farmer of Fredon township. Mr. Van Horn, was secretary of the committee appointed by the Newton, N. J., Board of Trade to look into the matter of the appointment of a county agent. Although about 85 years old now, Mr. Van Horn took an active interest in going to New York City and putting the story of extension work in his county on a disc for the WNBC anniversary broadcast.

The talks by Director Wilson and Mr. Gilbertson for both these programs were transcribed in Washington.

Lindley G. Cook, associate director of the New Jersey Extension Service, told about how Extension developed in the State during Joe Bier's 6 a. m. "News of the Farm" program on WOR that week. Mrs. Kathryn Francis Cook, who has been a home demonstration agent in Mercer County for more than 25 years, told of the work Extension is doing in the State and something of her part in it, during the noontime "Farmers' Hour" over Station WTTM, Trenton.

■ Looking ahead to the time when development of the Missouri River water resources will make irrigation farming possible in about half of North Dakota's counties, the North Dakota Extension Service is giving county agents training in irrigation.

Director E. J. Haslerud called a meeting for county agents from 25 counties on the subject of irrigation, which was held March 18 and 19.

Instruction on irrigation was given at the session by representatives of the Federal Bureau of Reclamation, the Soil Conservation Service, and State agricultural engineers. Through a series of farm irrigation demonstrations planned at points in the State where projects are already developed or in process of development, the Extension Service expects to obtain information, which will be valuable to other farmers in the State when irrigation comes to their localities.

Do you know

MRS. FABILOLO C. DE BACA GILBERT, a New Mexico home demonstration agent who is firmly established in the minds and hearts of the Spanish-speaking Americans in her county?

■ Mrs. Fabiola C. de Baca Gilbert was born on a ranch near Las Vegas, N. Mex., and with the exception of 1 year spent in Spain, she has spent her entire life in her native State.

In the 17 years that Mrs. Gilbert has worked in New Mexico as a home demonstration agent, she has been assigned to only two counties. Her first assignment was that of district agent with Santa Fe and Rio Arriba Counties as her field. This arrangement lasted for 2 years, and then she was assigned to the job of county extension agent-at-large for 1 year. For the past 14 years she has been the county home demonstration agent in Santa Fe County.

Mrs. Gilbert's most outstanding work has been with the Spanish-speaking women and girls in Santa Fe County. She organized adult clubs for the women throughout the county, and her 4-H girls clubs are known throughout the entire State for their outstanding work in preparation and conservation of foods, sewing, and the native arts and crafts. If the rural women of Santa Fe

County need assistance, they call for Mrs. Gilbert.

She organized a women's market for native products, which furnishes an outlet for canned food products, rugs, baskets, pottery, and other handicraft made by the native people. During the war, she gave freely of her time, serving on many emergency boards and interpreting war regulations to the rural people.

Throughout the war period she helped with food rationing and bond sales in rural areas. She served, too, as director of the committee that operated a community kitchen in Santa Fe. Here the women and girls of the community were taught the correct ways to prepare and preserve foods. Mrs. Gilbert gave food demonstrations regularly at the community kitchen until it closed early in 1946; then she accepted the responsibility of the weekly cooking class in the Garcia Street Club, a youth center. She prepares a homemaker's column in Spanish each week, which is published in the Santa Fe New Mexican, and has done similar educational work with the local radio station.

Not content with these accomplishments with the folks at home, Mrs. Gilbert has recently branched out into the field of inter-American good will. She assisted with a 4-H Club movie that has been shown throughout Latin-America and has worked with women of South America who have come to the United States to study methods of conducting home economics extension work. Mrs. Gilbert assisted with the direction of the film, "Preservation of Basic Foods," made by the All-Nations Production Company, Rockefeller Plaza, New York. The film was prepared for Spanish-speaking people.

In addition to all this, Mrs. Gilbert has found time to write two bulletins in Spanish: *Boletin de Conservar* and *Los Alimentos y Su Preparacion*. Also, she has compiled a collection of fine old native recipes under the title, "Historic Cookery." These bulletins have had a wide distribution in New Mexico and other sections where the Spanish language is spoken.

Mrs. Gilbert received her elementary education in a private school for girls and later attended the high school associated with the Highlands University at Las Vegas, N. Mex., where she graduated in 1913. Upon returning home, she again observed closely the families of laborers who worked on her father's ranch. It was then that she decided to return to Highlands University to prepare herself as a teacher.

During the time Mrs. Gilbert was a student at Highlands University, she had an opportunity to go to Spain for a year's study at Centro de Estudios Historicos in Madrid. She took time out from her studies at Highlands and spent a year in Spain, returning to Highlands to receive a baccalaureate degree in pedagogy in 1921.

Mixed in with attending the University and the trip to Spain, Mrs. Gilbert managed to get in 11 years of teaching. In 1927 her course of procedure took a definite turn. She enrolled as a student in the home economics department of New Mexico A. & M. College. During her first year at A. & M. she taught a class in Spanish in addition to her work as a student of home economics. She completed the course in 1929.

Mrs. Gilbert, home demonstration agent, admires the well-filled pantry of Mrs. Fidel Romero.





Have you read

OUR CHILDREN. Annual Report of the Profession to the Public, by the Executive Secretary of the National Education Association of the United States. Willard E. Givens. 16 pp. National Education Association of the United States, 1201 Sixteenth Street NW., Washington 6, D. C. 1946.

■ The ability of the Nation's schools to meet fully its obligations to society, always more or less below par because of inadequate financial support, struck a new low during the war years, a fact which is just now coming to be impressed upon the people. Evidence of the seriousness of the situation is found in the campaign presently carried on through press and radio to arouse the public to action. In a few communities the teachers themselves have resorted to means heretofore frowned upon.

The predicament stems from a neglect to keep salaries in line. Thousands of teachers left their posts for more lucrative jobs in order to make a decent living. Thousands of positions have been filled with temporary teachers of poor quality, while thousands more have gone unfilled. As for the future, the picture is far from bright because not even enough teachers are in training to take the places of those who normally leave the profession.

The situation now, as well as the long-time view, as to needs and remedies are summed up in a 16-page document entitled "Our Children—Annual Report of the Profession to the Public," by the executive secretary of the National Education Association. The report is divided into 10 parts as follows: The World We Live in; The Kind of Citizens We Need; The Kind of Citizens We Have; Urgent Needs of the Educational Program; The Kind of Teachers We Need; The Vanishing Teacher; The Economic Status of the Teacher; The Social Status of the Teacher; The Professional Security of the Teacher; Our Nation Can Afford Good Schools.

We are reminded that ours is a

very complex world made more so by the recent war. "It is a world of quickly achieved knowledge and skills, of racial and class tensions, of international frictions; of battered traditions, of huge debts, and of inevitable change." The report emphasizes that "American children must find their way in the world we live in, and they must have the education which will help them to do so."

To solve the many problems that lie ahead demands an "informed citizenship capable of sound decisions and vigorous action; a citizenship that is morally sturdy, aware of spiritual values, and convinced that every individual has a responsibility to uphold and a contribution to make." That we fall short of this mark is found in statistics which show that the average citizenship 20 years of age in 1940 had attended school only 9 years; at the same time there were 10 million citizens functionally illiterate, and Selective Service was forced to reject 676,000 draftees for mental and educational deficiency. Juvenile delinquency jumped to a new high partly because of the war; but "a great deal of it can be attributed to long-time, widespread indifference to the needs of youth."

"American education demands reappraisal," the report declares, "in the light of the needs of American citizens and of community and national welfare."

As to the kind of teachers we need to do an effective job, we are told that only a minority meet desirable standards, and most of these are in the cities. "The situation in rural schools was none too favorable in prewar days; since the beginning of the war it has become steadily worse."

Strangely enough these things are happening to our schools when "our Nation can afford good schools." Figures are given to prove it. The proportion of the national income expended for schools in 1943 was smaller than for any year since 1929.

Figures from a United States Chamber of Commerce survey are

used to show a "marked relationship between expenditures for education and the economic prosperity of a given community or State." This is the basis of the report's conclusion that "education pays and that we can afford to educate our children."—*Irvin H. Schmitt, Chief, Victory Farm Volunteer Division, Farm Labor Program, Federal Extension Service.*

FOODS: THEIR VALUES AND MANAGEMENT. Henry C. Sherman. 221 pp. Columbia University Press, New York, N. Y.

■ H. C. Sherman has the unique characteristic of being able to write interestingly for the nonprofessional reader and yet be outstanding in his professional field. His latest book, published in 1946 with the above title, is intended as a companion volume to *The Science of Nutrition* and is put out by the same publisher, the Columbia University Press, in New York City. Workers in the field of nutrition education will find in *Foods: Their Values and Management*, just the information they desire to have at hand.

In this book, Dr. Sherman treats foods as individual and group commodities, "the first essentials of the better life." He has devoted a chapter to each of the 10 food groups, with a general introductory chapter dealing with today's activities related to food supplies and a concluding one on food adjustment problems. The place in the dietary of each article or type of food is considered from the viewpoint of its contribution to each main aspect of nutrition value: Energy, protein, mineral elements, and vitamins. Special attention is given to new knowledge of the distribution and conservation of vitamin values and to the amounts of individual amino acids in the different food proteins.

He uses the term, "management," to cover the entire field, extending from each individual's daily use of food to the planning of food production for the better nutrition of all people.—*M. L. Wilson, Director of Cooperative Extension Work.*

■ A homemakers leadership institute in Worcester County, Mass., emphasized posture, voice, and good grooming, as well as parliamentary procedure, program planning, and a talk on understanding people.



Flashes

FROM SCIENCE FRONTIERS

A few hints of what's in the offing as a result of scientific research in the U. S. Department of Agriculture that may be of interest to extension workers, as seen by Marion Julia Drown, Agricultural Research Administration, U. S. Department of Agriculture.

Fruit Insects Routed by DDT

■ One-third to one-half of the country's apple orchards will probably be protected by DDT from the codling moth in 1947, entomologists estimate. Tests in 1946 showed that the famous insecticide is highly effective against this and many other pests destructive to fruit trees.

There is one drawback, however, to its use in orchards. In amounts used for codling moth control DDT is ineffective against certain other pests of fruit trees, such as some species of orchard mites, the woolly apple aphid, and the red-banded leaf roller. Moreover, DDT destroys the natural enemies of these pests, which ordinarily hold them in check. In spite of this, when codling moth infestation is severe, the balance is in favor of using DDT even though other insects may be increased. Separate measures can be taken to control these insects and mites. Lead arsenate in the early season sprays, either alone or with DDT, controls the red-banded leaf roller if the spray is thoroughly applied to cover the under side of the leaves. The woolly apple aphid can be controlled by applying nicotine sulfate when needed. Definite recommendations for control of leaf mites cannot be made until further results of tests are in.

The Bureau of Entomology and Plant Quarantine can furnish directions for formulations and application of DDT for control of the codling moth and such other fruit insects as the Oriental fruit moth, grape leaf hoppers, tarnished plant bug, apple maggot, and pear thrips.

Possible New Antibiotic in Tomato Plants

■ Recent work of Department scientists reveals that tomato plants of certain wilt-resistant varieties contain a substance that hinders

the growth of the fungus that causes fusarium wilt disease. This substance has been named "tomatin." Its discovery explains why some varieties of tomatoes are able to grow in soils infected with the wilt disease, and opens the possibility of a new weapon against diseases of man and animals as well as plants.

Tomatin has been shown to be even more effective in inhibiting the growth of certain bacteria and fungi that cause human and animal diseases than it is against the tomato-wilt fungus. It may take its place beside penicillin as an antibiotic (killer of disease organisms). Tomatin is effective against the parasitic fungi that cause skin diseases such as eczema, ringworm, and athlete's foot, and several yeastlike fungi that cause serious internal diseases, all of which are resistant to penicillin.

First, of course, tomatin will have to be proved safe for medicinal use. Intensive work is being done on this phase of the project by agencies co-operating with the Department. Fungus infections are now known to be more prevalent and widespread than was supposed, and at present no safe and effective remedies for the more serious ones are available.

Meanwhile, antibiotic agents similar to tomatin have been found in a few other plants. Substance in the leaves of cabbage, potato, sweetpotato, and chili pepper plants hinder the growth of the fusarium fungus and may also prove effective against human disease fungi.

2,4-D Broadens Its Usefulness as a Weed Killer

■ Clearing lawns of weeds without hurting the grass was the first function assigned 2,4-D when its value as a weed killer was discovered. Now the chemical is being recommended by weed-control specialists of the Department for killing weeds in field

crops such as wheat, oats, barley, and sugarcane. This more utilitarian use bids fair to be a means of increasing farm efficiency.

The recommendations are based on tests in widely separated regions of the United States. In the Red River Valley in North Dakota, for example, wheat fields badly infested with wild mustard treated with 2,4-D produced 10 to 15 more bushels of wheat per acre than adjoining untreated fields. In Louisiana, farmers are using 2,4-D to combat alligator weed in sugarcane fields with good effects. Previously flame cultivators have the only means of control of the weed, which spreads from the bayous and has choked out many fields.

Chemical weed killing is not new, but a chemical that kills only the weeds and leaves the crop unharmed is new. Other chemicals were used only as a last resort, because they killed all vegetation and often made the land unfit for cropping for 1 to 3 years.

Experiments show that 1 to 1½ pounds of 2,4-D per acre, dissolved in 100 to 125 gallons of water or applied in a dust, will control annual weeds in small grains. Trees, shrubs, and some crop plants are susceptible to the chemical, so care should be taken in applying it. Weeds are most susceptible when making rapid growth. Annual treatments with 2,4-D will keep even the deep-rooted perennial weeds, such as bindweed, under control, though they may not be completely eradicated. Poison ivy should be sprayed in early summer when it is making its first growth.

A Good Beginning Is Good for Beef Calves

■ Birth weight of beef calves is a clue to growth rate, department scientists have found. Calves heavier than the average at birth tended to reach weaning weight sooner than the lighter-weight newborn calves. Further, the heavier calves generally reach slaughter weight sooner.

These findings are the result of studies on 402 beef Shorthorn calves over a period of 14 years at the Agricultural Research Center at Beltsville, Md. The calves were from 112 cows bred to 28 bulls. Weight at birth ranged from 40 to 109 pounds, aver-

aging 70½. The data indicated that birth weight is influenced by heredity from both sire and dam. Weight of calf tends to increase with age of dam up to 6 years, after which there is no further increase from that factor.

In applying the results of these studies to the raising of beef cattle, it would seem desirable to give birth weight of calves consideration both in selecting breeding stock and in choosing animals to be fed for slaughter.

Gum Goes in—Turpentine and Rosin Come Out

■ A new continuous-process still for converting pine gum to turpentine and rosin, now in operation at Lake City, Fla., represents the fulfillment of long-cherished hopes of naval stores operators. For 150 years or more, turpentine and rosin have been produced in batch stills, and continuous operation was only a dream. The new still, of small commercial size, is the result of 3 years of intensive research by naval stores scientists of the Bureau of Agricultural and Industrial Chemistry. It is both faster and cheaper than batch stills, one of which is being operated side by side with the new continuous still for the purpose of comparing results. The new type uses less than two-thirds as much steam as the conventional still and requires only half as much labor to operate. The rosin produced is as good, if not better, and of more uniform quality.

In the continuous flash still, as it is sometimes called, cleaned gum from southern pine trees is preheated to about 350° F. and sprayed into a chamber at the top of a 20-foot-high 8-inch pipe. This is called the flash chamber because, when the gum enters it, 80 percent of the turpentine in the gum flashes off, or vaporizes, passing out through a pipe at the top which carries it to a condensing tank. The rosin, not being volatile like the turpentine, flows down the pipe, meeting a current of live steam on the way which drives out the rest of the turpentine. The two products normally start flowing from separate outlets about 5 minutes after the gum has entered the flash chamber and continue to flow as long as gum is sprayed in.

Distinguished service recognized

■ The 1946 Awards for Meritorious Service given each year by Epsilon Sigma Phi, National Honorary Extension Fraternity, were announced at the annual dinner held in Chicago, Ill., last December.

The Distinguished Service Ruby was awarded to Dean and Director J. E. Carrigan, University of Vermont. The Certificates of Recognition at Large were awarded to Dr. John Alfred Hannah, president of Michigan State College; Dr. H. E. Babcock, former county agent leader, Extension Service, Cornell University, and now president of the Board of Control of Cornell University; and Dr. W. C. Coffey, President Emeritus, University of Minnesota.

The 1946 Certificates of Recognition granted on recommendations made by the several chapters were as follows: Roy Edwin Jones, poultry specialist, University of Connecticut, Storrs, Conn.; Venia Marie Kellar, assistant director for home demonstration work, University of Maryland, College Park, Md.; Charles Henry Hartley,

State 4-H Club leader, West Virginia University, Morgantown, W. Va.; Milton Wesley Muldrow, extension animal husbandman, Little Rock, Ark.; Isabelle Starr Thursby, specialist in food conservation, Florida State College for Women, Tallahassee, Fla.; Ellen White LeNoir, State home demonstration agent, Louisiana State University, Baton Rouge, La.; Lella Reed Gaddis, State home demonstration agent, Purdue University, LaFayette, Ind.; Willimina Pearl Martin, home health and sanitation specialist, Kansas State College, Manhattan, Kans.; Julia Olive Newton, State home demonstration leader, University of Minnesota, University Farm, St. Paul, Minn.; Ralph Edward Bodley, State supervisor, emergency farm labor program and specialist in rural fire control, Montana State College, Bozeman, Mont.; John Hyrum Wittwer, county agricultural agent, Clark County, Nev.; Mary Elmina White, assistant director in home economics, State College of Washington, Pullman, Wash.

New slidefilms released

■ **Wildlife and Soil Conservation. No. 670.** Prepared by Extension Service and Soil Conservation Service. An abundance of songbirds, game, fur-bearing animals, and other types of wildlife makes farms more valuable and farm life more enjoyable. They help to protect crops against pests, provide sport and recreation for the farm family and friends, add delicious variety to the farm fare, and in some instances may have a real market value. With these benefits in mind, this slidefilm was prepared to show how farmers can increase and protect wildlife by improving their land pattern, in providing travel lanes, and growing suitable vegetation on wasteland, which when properly planted will provide shelter and food for wildlife. (58 frames; single, \$0.55; double, \$1.25.)

Raindrops and Erosion. No. 672. Based on experiments conducted by W. D. Ellison, Soil Conservation Service. This slidefilm was designed to show results of research relating to

damage caused by raindrops beating on soil. It illustrates and describes the raindrop as a primary cause of loss and destruction of topsoil. It depicts many of the processes of raindrop action and discusses their effects in destroying soil fertility, causing flood run-off and accelerating harmful silt accumulations in streams and reservoirs. (50 frames; single, \$0.50; double, \$1.)

Save Work in Doing Dairy Chores. No. 674. Based on Vermont Agricultural Experiment Station Bulletin 503. Prepared by Extension Service. This is a story of how one Vermont farmer studied the way he was doing his dairy barn chores and was able to make improvements that resulted in daily savings of 2 hours and 5 minutes of time and 2 miles of walking. (59 frames; single, \$0.55; double \$1.25.)

A copy for inspection of each of these slidefilms is deposited with the extension editor at your State agricultural college.

Among Ourselves

■ **LYMAN M. BUTLER**, county agent in Marshall County, Ind., died suddenly while taking a 4-H demonstration team to a hockey game as a reward for their work.

Mr. Butler was a graduate of Purdue University. He was county agent in Knox County before going to Marshall County in 1922. An editorial in his home town paper read, "With the passing of Lyman M. Butler, Marshall County citizens have lost one of the best friends they ever had. He was more than a county agent; he was the county's servant who derived pleasure in giving of himself to his fellow man."

His 24 years of service in Marshall County have developed a strong soil conservation program, an active 4-H club organization, and strengthened many a rural activity in the county.

■ **WINNIE BELLE HOLDEN** has resigned as extension radio specialist for South Carolina. Miss Holden is to be married. After 19 years as home demonstration agent, she became radio specialist in January 1943. At that time there were 7 radio programs being conducted by extension workers in South Carolina, and a dozen county agricultural and home demonstration agents were participating in them. Today there are 30 regular weekly programs being put on by the Extension Service in the State, and 113 different workers from the county and State staff are participating in them. Hers has been a pioneering job, and she has done it well. Miss Holden plans to develop further a patent she has had under way for some time.

■ **ORREN BEATY**, State supervisor of emergency farm labor under the New Mexico Extension Service, retired March 31. Since September 1945, he had been in charge of the recruitment and placing of farm laborers in the State. Under Beaty's administration of the State farm labor program, 50,000 farm laborers were placed annually. He was also in charge of placing 5,000 war prisoners.

Mr. Beaty has been associated with agriculture in New Mexico for 31

years. A graduate of Oregon State College, he was employed in public agricultural work in Oregon for several years before going to Union County, N. Mex., as extension agent in 1916. From 1922 to 1934 he was county extension agent in Lea County and from 1934 to 1935 in Roosevelt County. He was district supervisor for the Farm Security Administration from 1935 to 1943.

■ **PAUL A. GANTT**, formerly extension animal husbandry specialist in Hawaii, has resigned to take up dairy farming in Louisiana. For the past 5 years, Mr. Gantt has been on emergency war food assignments and worked practically all over the Pacific. The new farm is at Rosedale, 20 miles west of Baton Rouge, and offers promise to a dairyman. The beautifully built home dating back to 1839 offers promise to the dairyman's wife.

■ **EARL L. SCOVELL**, extension forester in New Jersey, died February 2 following an operation. He had been the State's extension forester since 1926 and was one of the pioneers in farm forestry work. He was a graduate of the Yale School of Forestry and was with the New Jersey State Forestry Department before joining the extension ranks.

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EXTENSION SERVICE
U. S. DEPARTMENT OF AGRICULTURE
WASHINGTON 25, D. C.

■ **J. W. WILLIS**, extension cotton specialist in Mississippi, retired February 1 after 40 years of service. Starting with the Farmers' Cooperative Demonstration Work, February 1, 1907, he served as local county agent, district agent, State agent, assistant director, and cotton specialist.

"The demonstration method of teaching inaugurated by Dr. Seaman A. Knapp, is the greatest system for teaching rural people ever inaugurated," said Mr. Willis on the occasion of his retirement when his fellow workers met to honor him for 40 years of pioneer effort.

"I am old enough to retire," he said, "but not old enough to begin living in the past. I am just as much interested in the future of Extension as I have ever been."

His good sound advice and philosophy will be missed by his colleagues and by the cotton farmers with whom he has been working. He retires to his farm at Graysport, Grenada County.

■ **DEAN I. O. SCHAUB**, of North Carolina, and **CONNIE J. BONSLAGEL**, Arkansas State home demonstration agent, were awarded the bronze medallions for "distinguished service to southern agriculture" at the forty-fourth annual convention of the Southern Association of Agricultural Workers held in Biloxi, Miss.

■ **J. R. CHAVEZ**, agricultural extension agent of Mora County, N. Mex., was awarded the 1946 plaque of the New Mexico Wool Growers' Association for the most outstanding work on sheep and wool improvement in his county. Chavez' award was based on close cooperation with small operators in obtaining better rams for an improvement program, successful activities in controlling sheep parasites, cooperation in supervising activities of junior wool growers, and assistance in and support of the State wool show.

He has been the extension agent in Mora County for 6 years. He was graduated from New Mexico Agricultural and Mechanical College in 1938.